UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,068	02/28/2006	Klaus Bohnert	004501-811	2763

21839 7590 07/03/2007
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER	
BLEVINS, JERRY M	

ART UNIT	PAPER NUMBER
2883	

MAIL DATE	DELIVERY MODE
07/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/534,068	BOHNERT ET AL.	
	Examiner	Art Unit	
	Jerry Martin Blevins	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed April 2, 2007 have been fully considered but they are not persuasive.

Specifically, examiner contends that the previously cited prior art reference to Maschek, US 4,802,731, teaches an optical fiber (11) arranged within a capillary (7), which is in turn arranged within an insulating part (6) of a high-voltage component (10). Furthermore, Maschek teaches in column 4, lines 10-21 that the capillary comprises a protective medium.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5-7, 9-12, 14, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,802,731 to Maschek et al.

Regarding claim 1, Maschek teaches a high-voltage component (10) comprising a first end (9) and a second end (5) wherein under operating conditions the first end is on a high-voltage potential with respect to the second end (abstract), comprising an insulating part (6) which is arranged between the first end and the second end, and

comprising at least one optical fiber (11) which is integrated in the high-voltage component and which extends from the first end to the second end, wherein the high-voltage component comprises at least one capillary (7, column 3, lines 30-44) which extends from the first end to the second end and which is arranged within the insulating part (Figure 1), wherein the inside diameter of the capillary exceeds the outside diameter of the fiber (Figure 2), wherein the fiber is arranged within the capillary (Figure 2), and wherein the capillary comprises a protective medium (19, column 4, lines 10-21) to achieve a dielectric strength within the capillary, which dielectric strength is suitable for the operating conditions (column 1, lines 29-36).

Regarding claim 5, Maschek teaches that the fiber comprises a fiber coating (19).

Regarding claim 6, Maschek teaches that the fiber is exchangeable without there being any need to change the insulating part (column 4, line 65 – column 5, line 7).

Regarding claim 7, Maschek teaches an insulation body which extends from the first end to the second end wherein the insulation body differs from the insulating part, wherein the capillary is arranged in a spiral shape along the insulation body, and in particular, wherein the insulation body is wrapped by an intermediate layer, and the intermediate layer is arranged between the insulation body and the capillary (Figure 2 and column 3, lines 30-44).

Regarding claim 9, Maschek teaches that the insulating part is a form of shielding and/or an insulation filler and/or an insulation body (abstract).

Regarding claim 10, Maschek teaches that the high-voltage component is a high-voltage insulator, a high-voltage leadthrough, a high-voltage arrester, or a high-voltage switch (abstract).

Regarding claim 11, Maschek teaches a method for producing a high-voltage component (10) comprising a first end (9) and a second end (5) wherein under operating conditions the first end is on a high-voltage potential with respect to the second end (abstract), and comprising an insulating part (6) which is arranged between the first end and the second end, wherein between the first end and the second end within the insulating part at least one capillary is arranged to accommodate at least and one optical fiber (11) (column 3, lines 30-44), and wherein a protective medium (19) is placed in the capillary to achieve a dielectric strength in the capillary, which dielectric strength is suitable for the operating conditions (column 1, lines 29-36).

Regarding claim 12, Maschek teaches that the fiber is placed in the capillary (column 3, lines 30-44).

Regarding claim 14, Maschek teaches an insulation body which extends from the first end to the second end wherein the insulation body differs from the insulating part, wherein the capillary is arranged in a spiral shape along the insulation body, and in particular, wherein the insulation body is wrapped by an intermediate layer, and then the capillary is arranged in a spiral shape along the insulation body which is wrapped by the intermediate layer and is arranged between the insulation body and the capillary (Figure 2 and column 3, lines 30-44).

Regarding claim 17, Maschek teaches that the fiber is placed in the capillary after the capillary is arranged within the insulating part and/or that the fiber is placed in the capillary in such a way that it is exchangeable (column 4, line 65 – column 5, line 7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maschek in view of US 6,140,810 to Bohnert et al.

Regarding claim 2, Maschek teaches the limitations of the base claim 1. Maschek does not teach that the outside of the capillary is enclosed by a capillary coating in order to protect the capillary against mechanical stress. Bohnert teaches a capillary enclosed by a capillary coating in order to protect the capillary against mechanical stress (column 5, lines 25-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the capillary of Maschek with the capillary coating of Bohnert. The motivation would have been to protect the capillary against mechanical stress (Bohnert, column 5, lines 25-45).

Regarding claim 3, Maschek teaches the limitations of the base claim 1. Maschek does not teach that the capillary is designed and arranged in the insulating part such that thermo-mechanical stress, which under operating conditions is exerted on

the capillary by the insulating part leaves it undamaged, and/or that the capillary is designed and arranged in the insulating part such that thermo-mechanical stress, which the insulating part exerts on the capillary during the curing process of the insulation part leaves it undamaged. Bohnert teaches that a capillary is designed and arranged in an insulating part such that thermo-mechanical stress, which under operating conditions is exerted on the capillary by the insulating part, leaves it undamaged, and/or that the capillary is designed and arranged in the insulating part such that thermo-mechanical stress, which the insulating part exerts on the capillary during the curing process of the insulation part, leaves it undamaged (column 5, lines 25-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the capillary of Maschek with the teachings of Bohnert. The motivation would have been to prevent damage of the capillary (Bohnert, column 5, lines 25-45).

Regarding claim 8, Maschek teaches the limitations of the base claim 1. Maschek does not teach that the high-voltage component comprises a current sensor and/or a voltage/sensor. Bohnert teaches a high-voltage component which comprises a current sensor and/or a voltage sensor (element 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the sensor of Bohnert in the high-voltage component of Maschek. The motivation would have been to accurately gauge the current and/or voltage of the component so as to prevent damage.

Claims 4 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maschek in view of US 5,912,910 to Sanders et al.

Regarding claims 4 and 18, Maschek teaches the limitations of the base claim 1. Maschek does not teach that the fiber is a polarization-maintaining fiber and a fiber comprising an elliptic core, a fiber comprising an inner elliptic jacket, a bowtie fiber, or a panda fiber. Sanders teaches a high-voltage component comprising a polarization-maintaining fiber, and particularly, a fiber comprising an elliptic core, a fiber comprising an inner elliptic jacket, a bowtie fiber, or a panda fiber (column 21, lines 35-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the polarization-maintaining fiber, and particularly, a fiber comprising an elliptic core, a fiber comprising an inner elliptic jacket, a bowtie fiber, or a panda fiber of Sanders in the high-voltage component of Maschek. The motivation would have been to provide greater protection for users of the high-voltage component.

Claims 13, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maschek in view of US 6,203,647 to Schuler et al.

Regarding claims 13, 15, and 16 Maschek teaches the limitations of the base claim 11. Maschek does not teach that a capillary coating is applied to the capillary before the capillary is arranged within the insulating part, that the capillary is arranged within the insulating part prior to a curing process of the insulating part taking place, and that the fiber is placed in the capillary before the capillary is arranged within the insulating part. Schuler teaches a production method for a high-voltage component

comprising a capillary coating applied to the capillary before the capillary is arranged within an insulating part, that the capillary is arranged within the insulating part prior to a curing process of the insulating part taking place, and that a fiber is placed in the capillary before the capillary is arranged within the insulating part (column 2, lines 31-39). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the production method of Maschek with the teachings of Schuler. The motivation would have been to allow for the proper placement and alignment of the above components.

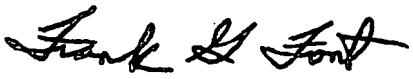
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMB



Frank G. Font
Supervisory Patent Examiner
Technology Center 2800